

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) ~~A Preventive and/or therapeutic medicines for cancers and chronic rheumatoid arthritis, containing a peptide indicated by the following~~ according to formula ~~(Ia)~~ (I) or a salt thereof:

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A1-A2-A3-Cys-Tyr-A4-A5-A6-A7-A8-A9-A10-Cys-A11 ~~(Ia)~~ (I)

wherein:

A1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which ~~may be~~ is derivatized at the N-terminal, or A1 is deleted;

A2 represents an arginine or glutamic acid residue if A1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which may be derivatized at the N-terminal, or A2 represents an arginine or glutamic acid residue which may be derivatized at the N-terminal if A1 is deleted;

A3 represents an aromatic amino acid residue;

A4, A5 and A9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;

A6 represents a proline, glycine, ornithine, lysine, alanine, citrulline, arginine or glutamic acid residue;

A7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;

A8 represents a tyrosine, phenylalanine, alanine, naphthylalanine, citrulline or glutamic acid residue;

A10 represents a citrulline, glutamic acid, arginine or lysine residue;

A11 represents an arginine, glutamic acid, lysine or citrulline residue which may be derivatized at C-terminal;

~~In the above formula, Cys represents a cysteine residue, Tyr represents a tyrosine residue, wherein the cysteine residues of the 4-position and the 13-position can be combined by form a disulfide bond, and the amino acid can be either L or D form.~~

2. (Currently Amended) ~~Preventive and/or therapeutic medicines stated in Claim~~ The peptide according to claim 1, wherein

~~in the above formula (Ia):~~

A1 is an arginine, citrulline, alanine or glutamic acid residue which ~~may be~~ is derivatized at the N-terminal, or A1 is deleted;

A2 represents an arginine or glutamic acid residue if A1 is an arginine, citrulline, alanine or glutamic acid residue which may be derivatized at the N-terminal, or A2 represents an arginine or glutamic acid residue which may be derivatized at N-terminal if A1 is deleted;

A4 represents an arginine, citrulline, alanine or glutamic acid residue;

A5 represents an arginine, citrulline, alanine, lysine or glutamic acid residue;

A6 represents a lysine, alanine, citrulline or glutamic acid residue;

A7 represents a proline or alanine residue;

A8 represents a tyrosine, alanine or glutamic acid residue;

A9 represents an arginine, citrulline or glutamic acid residue;

A10 represents a citrulline or glutamic acid residue;

A11 represents an arginine or glutamic acid residue which may be derivatized at the C-terminal.

3. (Currently Amended) The Peptide peptide according to claim 1, ~~represented by the following formula (Ib) or a salt thereof:~~

~~— 1 2 3 4 5 6 7 8 9 10 11 12 13 14~~

~~— B1-B2-B3-Cys-Tyr-B4-B5-B6-B7-B8-B9-B10-Cys-B11 — (Ib)~~

wherein:

~~B1-A1~~ is a glutamic acid residue which ~~may be~~ is derivatized at the N-terminal, or ~~B1-A1~~ is deleted;

~~B2 represents an arginine or glutamic acid residue if B1 is a glutamic acid residue which may be derivatized at N-terminal, or B2 represents an arginine or glutamic acid residue which may be derivatized at N-terminal if B1 is deleted;~~

~~B3 represents an aromatic amino acid residue;~~

~~B4, B5 and B9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;~~

~~B6 represents a proline, glycine, ornithine, lysine, alanine, citrulline, arginine or glutamic acid residue;~~

~~B7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;~~

~~B8 represents a tyrosine, phenylalanine, alanine, naphthylalanine, citrulline or glutamic acid residue;~~

~~B10 represents a citrulline, glutamic acid, arginine or lysine residue;~~

~~B11 represents an arginine, glutamic acid, lysine or  
citrulline residue which may be derivatized at C-terminal;  
In the above formula, Cys represents a cysteine residue, Tyr  
represents a tyrosine residue, the cysteine residues of the 4-  
position and the 13-position can be combined by disulfide  
bond, and the amino acid can be either L or D form.~~

4. (Cancelled)

5. (Currently Amended) ~~Peptide indicated by the following  
formula (Ic) or a salt thereof:~~

~~— 1 2 3 4 5 6 7 8 9 10 11 12 13 14~~

~~— C1 C2 C3 Cys Tyr C4 C5 C6 C7 C8 C9 C10 Cys C11 — (Ic) The~~  
peptide according to claim 1,

wherein: any one of A2, A4, A6, A8, and A9 is a glutamic acid  
residue

~~C1 is an arginine, lysine, ornithine, citrulline, alanine or  
glutamic acid residue which may be derivatized at N-terminal,  
or C1 is deleted;~~

~~C2 represents a glutamic acid residue if C1 is an arginine,  
lysine, ornithine, citrulline, alanine or glutamic acid  
residue which may be derivatized at N-terminal, or C2  
represents a glutamic acid residue which may be derivatized at  
N-terminal if C1 is deleted;~~

~~C3 represents an aromatic amino acid residue;~~

~~C4, C5 and C9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;~~

~~C6 represents a proline, glycine, ornithine, lysine, alanine, citrulline, arginine or glutamic acid residue;~~

~~C7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;~~

~~C8 represents a tyrosine, phenylalanine, alanine, naphthylalanine, citrulline or glutamic acid residue;~~

~~C10 represents a citrulline, glutamic acid, arginine or lysine residue;~~

~~C11 represents an arginine, glutamic acid, lysine or citrulline residue which may be derivatized at C-terminal;~~

~~In the above formula, Cys represents a cysteine residue, Tyr represents a tyrosine residue, the cysteine residues of the 4-position and the 13-position can be combined by disulfide bond, and the amino acid can be either L or D form.~~

6. (Cancelled)

7. (Currently Amended) ~~Peptide indicated by the following formula (Ic) or a salt thereof:~~

~~— 1 2 3 4 5 6 7 8 9 10 11 12 13 14~~

~~E1 E2 E3 Cys Tyr E4 E5 E6 E7 E8 E9 E10 Cys E11 (Ie)The~~  
peptide according to claim 1,

wherein:

~~E1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which may be derivatized at N-terminal, or E1 is deleted;~~

~~E2 represents an arginine or glutamic acid residue if E1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which may be derivatized at N-terminal, or E2 represents an arginine or glutamic acid residue which may be derivatized at N-terminal if E1 is deleted;~~

~~E3 represents an aromatic amino acid residue;~~

~~E4 and E9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;~~

~~E5- A5 represents an arginine or glutamic acid residue;~~

~~E6 represents a proline, glycine, ornithine, lysine, alanine, citrulline, arginine or glutamic acid residue;~~

~~E7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;~~

~~E8 represents a tyrosine, phenylalanine, alanine, naphthylalanine, citrulline or glutamic acid residue;~~

~~E10 represents a citrulline, glutamic acid, arginine or lysine residue;~~

~~E11 represents an arginine, glutamic acid, lysine or  
citrulline residue which may be derivatized at C-terminal;  
In the above formula, Cys represents a cysteine residue, Tyr  
represents a tyrosine residue, the cysteine residues of the 4-  
position and the 13-position can be combined by disulfide  
bond, and the amino acid can be either L or D form.~~

8. (Currently Amended) ~~Peptide~~ The peptide or its salt  
stated in Claim claim 7, wherein  
E5-A5 represents a glutamic acid residue.

9. (Currently Amended) ~~Peptide~~ The peptide according to claim  
1, represented by the following formula (If) or a salt  
thereof:

~~1 2 3 4 5 6 7 8 9 10 11 12 13 14~~

~~F1 F2 F3 Cys Tyr F4 F5 F6 F7 F8 F9 F10 Cys F11 (If)~~

wherein:

~~F1 is an arginine, lysine, ornithine, citrulline, alanine or  
glutamic acid residue which may be derivatized at N-terminal,  
or F1 is deleted;~~

~~F2 represents an arginine or glutamic acid residue if F1 is an  
arginine, lysine, ornithine, citrulline, alanine or glutamic  
acid residue which may be derivatized at N-terminal, or F2~~



~~represents an arginine or glutamic acid residue which may be derivatized at N-terminal if F1 is deleted;~~

~~F3 represents an aromatic amino acid residue;~~

~~F4, F5 and F9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;~~

~~F6 represents a glutamic acid residue;~~

~~F7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;~~

~~F8 represents a tyrosine, phenylalanine, alanine, naphthylalanine, citrulline or glutamic acid residue;~~

~~F10-A10 represents a citrulline, glutamic acid, arginine or lysine residue;~~

~~F11 represents an arginine, glutamic acid, lysine or citrulline residue which may be derivatized at C-terminal;~~

~~In the above formula, Cys represents a cysteine residue, Tyr represents a tyrosine residue, the cysteine residues of the 4-position and the 13-position can be combined by disulfide bond, and the amino acid can be either L or D form.~~

10. (Currently Amended) Peptide ~~The peptide according to claim 1, represented by the following formula (I<sub>g</sub>) or a salt thereof:~~

~~— 1 2 3 4 5 6 7 8 9 10 11 12 13 14~~

~~G1 G2 G3 Cys Tyr G4 G5 G6 G7 G8 G9 G10 Cys G11 (Ig)~~

wherein:

~~G1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which may be derivatized at N-terminal, or G1 is deleted;~~

~~G2 represents an arginine or glutamic acid residue if G1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which may be derivatized at N-terminal, or G2 represents an arginine or glutamic acid residue which may be derivatized at N-terminal if G1 is deleted;~~

~~G3 represents an aromatic amino acid residue;~~

~~G4, G5 and G9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;~~

~~G6 represents a proline, glycine, ornithine, lysine, alanine, citrulline, arginine or glutamic acid residue;~~

~~G7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;~~

~~G8 represents a glutamic acid residue;~~

~~G10 represents a citrulline, glutamic acid, arginine or lysine residue;~~

~~G11-A11 represents an arginine, a glutamic acid, lysine or citrulline residue which may be derivatized at C-terminal;~~

~~In the above formula, Cys represents a cysteine residue, Tyr represents a tyrosine residue, the cysteine residues of the 4-position and the 13-position can be combined by disulfide bond, and the amino acid can be either L or D form.~~

11. - 13. (Cancelled)

14. (Currently Amended) ~~Peptide~~ A peptide having the sequence as set forth in any one of SEQ ID NOS: 11-68 indicated in any of the following items (1) to (58) or a salt thereof:

(1) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.11);

(2) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.12);

(3) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.13);

(4) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO.14);

(5) Ac-Cit-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.15);

(6) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.16);

- (7) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO.17);
- (8) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO.18);
- (9) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.19);
- (10) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.20);
- (11) Ac-Cit-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.21);
- (12) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.22);
- (13) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.23);
- (14) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.24);
- (15) H-DGlu-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.25);
- (16) H-Arg-Glu-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.26);
- (17) H-Arg-Arg-Nal-Cys-Tyr-Glu-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.27);
- (18) H-Arg-Arg-Nal-Cys-Tyr-Arg-Glu-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.28);

(19) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.29);

(20) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Glu-Cit-Cys-Arg-OH (SEQ ID NO.30);

(21) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Glu-OH (SEQ ID NO.31);

(22) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.32);

(23) H-Arg-Arg-Nal-Cys-Tyr-DGlu-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.33);

(24) H-Arg-Arg-Nal-Cys-Tyr-DGlu-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.34);

(25) H-DGlu-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.35);

(26) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-DGlu-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.36);

(27) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-DGlu-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.37);

(28) Ac-DGlu-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.38);

(29) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-DGlu-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.39);

(30) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-DGlu-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.40);

(31) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.41);

(32) guanyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.42);

(33) TMguanyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.43);

(34) TMguanyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.44);

(35) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.45);

(36) 2F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.46);

(37) APA-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.47);

(38) desamino-R-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.48);

(39) guanyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.49);

(40) succinyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.50);

(41) glutaryl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.51);

(42) deaminoTMG-APA-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.52);

(43) nelfinaviryl-succinyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.53);

(44) AZT-glutaryl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.54);

(45) R-CH<sub>2</sub>-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.55);

(46) H-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.56);

(47) TMguanylyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.57);

(48) ACA-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.58);

(49) ACA-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO.59);

(50) H-Arg-Arg-Nal-Cys-Tyr-Cit-Arg-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.60);

(51) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Arg-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.61);

(52) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.62);

(53) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.63);

(54) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO.64);

(55) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHMe (SEQ ID NO.65);

(56) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHEt (SEQ ID NO.66);

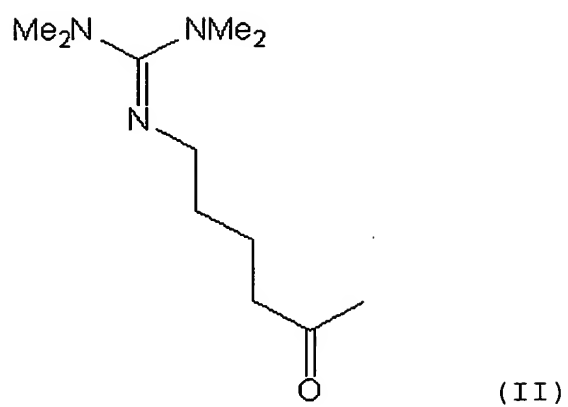
(57) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHiPr (SEQ ID NO.67);

(58) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-tyramine (SEQ ID NO.68);

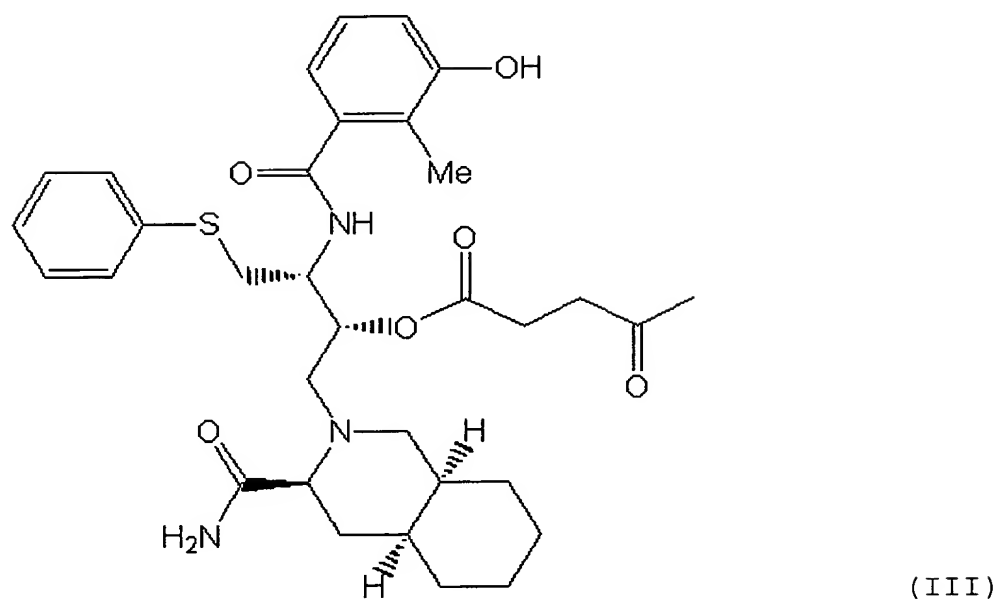
wherein,

in each sequence, the symbol put in the left part appearing as part of N-terminal amino acid shows derivatization or non-derivatization of the amino group; H shows non-derivatization, Ac shows acetyl group, guanyl shows guanyl group, succinyl shows succinyl group, glutaryl shows glutaryl group, TMguanyl shows tetra-methyl guanyl group, 2F-benzoyl shows 2-fluorobenzoyl group, 4F-benzoyl shows 4-fluorobenzoyl group, APA shows 5-amino-pentanoyl group, ACA shows 6-amino-hexanoyl group, desamino-R shows 2-desamino-arginyl group, deaminoTMG-APA shows the following formula(II),

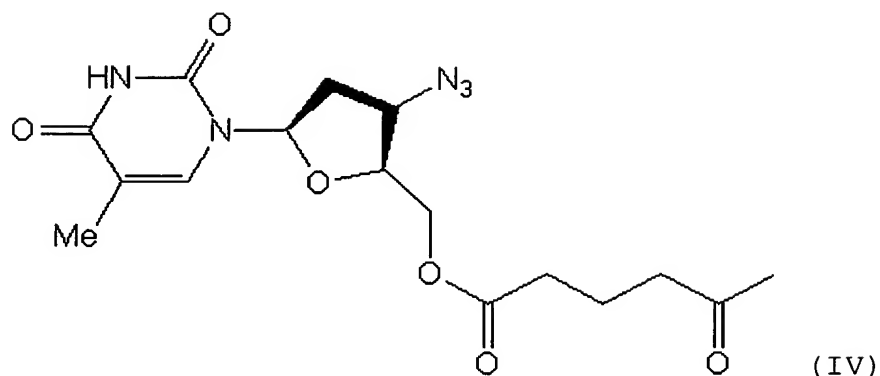




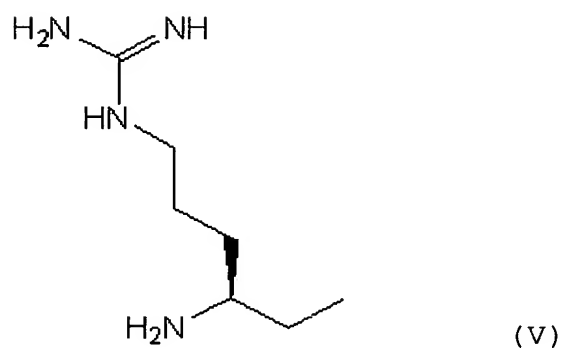
nelfinaviryl-succinyl shows the following formula (III),



AZT-glutaryl shows the following formula (IV),



$R-CH_2$   $R-CH^2$  shows the following formula (V)



Arg shows L-arginine residue, Nal show L-3-(2-naphtyl)alanine residue, Cys shows L-cysteine residue, Tyr shows L-tyrosine residue, Cit shows L-citrulline residue, Lys shows L-lysine residue, DLys shows D-lysine residue, Pro shows L-proline residue, DCit shows D-citrulline residue, DGlu shows D-glutamic acid residue, Glu shows L-glutamic acid residue, 2 cysteine residues are combined by intramolecular disulfide bond, the symbol attached to the right part of C-terminal

amino acid shows derivatization or non-derivatization of carboxyl group, OH shows non-derivatization, NH<sub>2</sub> shows amidation by amino group, NHMe shows amidation by methyamino group, NH<sub>2</sub>Et shows amidation by ethylamino group, NH<sub>2</sub>iPr shows amidation by isopropylamino group, tyramine shows amidation by p-hydroxyphenylethylamino group.

15. (Currently Amended) ~~Pharmaceutical~~ A pharmaceutical products composition comprising ~~containing any of the a peptides peptide stated in any of Claim 3 to Claim 14 according to formula (I) or any a salt of the peptide thereof.~~

16. (Cancelled)

17. (Currently Amended) ~~Preventive and/or therapeutic medicines~~ A method for preventing or treating ~~for cancers or chronic rheumatoid arthritis in a subject in need thereof, belonging to the comprising administering to the subject a pharmaceutical products stated in Claim 15 composition comprising as an active ingredient a therapeutically effective amount of a peptide according to formula (I) or a salt thereof:~~

1 2 3 4 5 6 7 8 9 10 11 12 13 14

A1-A2-A3-Cys-Tyr-A4-A5-A6-A7-A8-A9-A10-Cys-A11 (I)

wherein:

A1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which is derivatized at the N-terminal, or A1 is deleted;

A2 represents an arginine or glutamic acid residue if A1 is an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue which may be derivatized at the N-terminal, or A2 represents an arginine or glutamic acid residue which may be derivatized at the N-terminal if A1 is deleted;

A3 represents an aromatic amino acid residue;

A4, A5 and A9 each independently represents an arginine, lysine, ornithine, citrulline, alanine or glutamic acid residue;

A6 represents a proline, glycine, ornithine, lysine, alanine, citrulline, arginine or glutamic acid residue;

A7 represents a proline, glycine, ornithine, lysine, alanine, citrulline or arginine residue;

A8 represents a tyrosine, phenylalanine, alanine, naphthylalanine, citrulline or glutamic acid residue;

A10 represents a citrulline, glutamic acid, arginine or lysine residue;

A1 represents an arginine, glutamic acid, lysine or citrulline residue which may be derivatized at the C-terminal; wherein the cysteine residues of the 4-position and the 13-position can form a disulfide bond, and the amino acid can be either L or D form.

18. (Currently Amended) ~~Medicines stated in Claim 17 usable for~~ The method according to claim 17 wherein cancer is breast cancer or pancreatic cancer.

19. - 22. (Cancelled)

23. (New) The peptide according to claim 14 having the sequence as set forth in SEQ ID NO: 45 or in SEQ ID NO: 64.

24. (New) The pharmaceutical composition according to claim 15, wherein:

A1 is an arginine, citrulline, alanine or glutamic acid residue which is derivatized at the N-terminal, or A1 is deleted;

A2 represents an arginine or glutamic acid residue if A1 is an arginine, citrulline, alanine or glutamic acid residue which may be derivatized at N- terminal, or A2 represents an

arginine or glutamic acid residue which may be derivatized at the N-terminal if A1 is deleted;

A4 represents an arginine, citrulline, alanine or glutamic acid residue;

A5 represents an arginine, citrulline, alanine, lysine or glutamic acid residue;

A6 represents a lysine, alanine, citrulline or glutamic acid residue;

A7 represents a proline or alanine residue;

A8 represents a tyrosine, alanine or glutamic acid residue;

A9 represents an arginine, citrulline or glutamic acid residue;

A10 represents a citrulline or glutamic acid residue;

A11 represents an arginine or glutamic acid residue which may be derivatized at the C-terminal.

25. The pharmaceutical composition according to claim 15, wherein A1 is a glutamic acid residue which is derivatized at the N-terminal, or A1 is deleted.

26. (New) The pharmaceutical composition according to claim 15, wherein any one of A2, A4, A6, A8 and A9 is a glutamic acid residue.

27. (New) The pharmaceutical composition according to claim 15, wherein A5 represents an arginine or glutamic acid residue.

28. (New) The pharmaceutical composition according to claim 15, wherein A5 represents a glutamic acid residue.

29. (New) The pharmaceutical composition according to claim 15, wherein A10 represents a glutamic acid, arginine or lysine residue.

30. (New) A pharmaceutical composition according to claim 15, wherein A11 represents a glutamic acid, lysine or citrulline residue.

31. (New) A pharmaceutical composition comprising a peptide having the sequence as set forth in any one of SEQ ID NOS: 11-68 or a salt thereof:

(1) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 11);

(2) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 12);

(3) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 13);

- (4) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO. 14);
- (5) Ac-Cit-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 15);
- (6) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 16);
- (7) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO. 17);
- (8) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO. 18);
- (9) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 19);
- (10) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 20);
- (11) Ac-Cit-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 21);
- (12) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 22);
- (13) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 23);
- (14) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 24);
- (15) H-DGlu-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 25);



- (16) H-Arg-Glu-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 26);
- (17) H-Arg-Arg-Nal-Cys-Tyr-Glu-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 27);
- (18) H-Arg-Arg-Nal-Cys-Tyr-Arg-Glu-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 28);
- (19) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 29);
- (20) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Glu-Cit-Cys-Arg-OH (SEQ ID NO. 30);
- (21) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Glu-OH (SEQ ID NO. 31);
- (22) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 32);
- (23) H-Arg-Arg-Nal-Cys-Tyr-DGlu-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 33);
- (24) H-Arg-Arg-Nal-Cys-Tyr-DGlu-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 34);
- (25) H-DGlu-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 35);
- (26) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-DGlu-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 36);
- (27) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-DGlu-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 37);

- (28) Ac-DGlu-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 38);
- (29) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-DGlu-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 39);
- (30) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-DGlu-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 40);
- (31) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 41);
- (32) guanyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 42);
- (33) TMguanyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 43);
- (34) TMguanyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 44);
- (35) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 45);
- (36) 2F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 46);
- (37) APA-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 47);
- (38) desamino-R-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 48);
- (39) guanyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 49);

- (40) succinyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 50);
- (41) glutaryl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 51);
- (42) deaminoTMG-APA-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 52);
- (43) nelfinaviryl-succinyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 53);
- (44) AZT-glutaryl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 54);
- (45) R-CH<sub>2</sub>-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 55);
- (46) H-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 56);
- (47) TMguanylyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 57);
- (48) ACA-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 58);
- (49) ACA-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 59);
- (50) H-Arg-Arg-Nal-Cys-Tyr-Cit-Arg-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 60);
- (51) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Arg-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 61);

(52) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 62);

(53) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 63);

(54) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 64);

(55) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHMe (SEQ ID NO. 65);

(56) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHEt (SEQ ID NO. 66);

(57) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NhiPr (SEQ ID NO. 67);

(58) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-tyramine (SEQ ID NO. 68).

32. (New) The pharmaceutical composition according to claim 31, comprising a peptide having the sequence as set forth in SEQ ID NO: 45 or in SEQ ID NO: 64.

33. (New) The method according to claim 17, wherein said peptide is a CXCR4 antagonist.

34. (New) The method according to claim 17, wherein:

A1 is an arginine, citrulline, alanine or glutamic acid residue which is derivatized at the N-terminal, or A1 is deleted;

A2 represents an arginine or glutamic acid residue if A1 is an arginine, citrulline, alanine or glutamic acid residue which may be derivatized at the N-terminal, or A2 represents an arginine or glutamic acid residue which may be derivatized at the N-terminal if A1 is deleted;

A4 represents an arginine, citrulline, alanine or glutamic acid residue;

A5 represents an arginine, citrulline, alanine, lysine or glutamic acid residue;

A6 represents a lysine, alanine, citrulline or glutamic acid residue;

A7 represents a proline or alanine residue;

A8 represents a tyrosine, alanine or glutamic acid residue;

A9 represents an arginine, citrulline or glutamic acid residue;

A10 represents a citrulline or glutamic acid residue;

A11 represents an arginine or glutamic acid residue which may be derivatized at the C-terminal.

35. (New) The method according to claim 17, wherein A1 is a glutamic acid residue which is derivatized at the N-terminal, or A1 is deleted.

36. (New) The method according to claim 17, wherein any one of A2, A4, A6, A8 and A9 is a glutamic acid residue.

37. (New) The method according to claim 17, wherein A5 represents an arginine or glutamic acid residue.

38. (New) The method according to claim 17, wherein A5 represents a glutamic acid residue.

39. (New) A method for preventing or treating cancers or chronic rheumatoid arthritis in a subject in need thereof, comprising administering to the subject a pharmaceutical composition comprising as an active ingredient a therapeutically effective amount of a peptide having the sequence as set forth in any one of SEQ ID NOS: 11-68 or a salt thereof:

(1) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 11);

- (2) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 12);
- (3) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 13);
- (4) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO. 14);
- (5) Ac-Cit-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 15);
- (6) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 16);
- (7) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO. 17);
- (8) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-OH (SEQ ID NO. 18);
- (9) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 19);
- (10) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 20);
- (11) Ac-Cit-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 21);
- (12) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 22);
- (13) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 23);

- (14) Ac-Cit-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Cit-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 24);
- (15) H-DGlu-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 25);
- (16) H-Arg-Glu-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 26);
- (17) H-Arg-Arg-Nal-Cys-Tyr-Glu-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 27);
- (18) H-Arg-Arg-Nal-Cys-Tyr-Arg-Glu-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 28);
- (19) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 29);
- (20) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Glu-Cit-Cys-Arg-OH (SEQ ID NO. 30);
- (21) H-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Glu-OH (SEQ ID NO. 31);
- (22) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 32);
- (23) H-Arg-Arg-Nal-Cys-Tyr-DGlu-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 33);
- (24) H-Arg-Arg-Nal-Cys-Tyr-DGlu-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 34);
- (25) H-DGlu-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 35);



- (26) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-DGlu-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 36);
- (27) H-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-DGlu-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 37);
- (28) Ac-DGlu-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 38);
- (29) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-DGlu-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 39);
- (30) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-DGlu-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 40);
- (31) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 41);
- (32) guanyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 42);
- (33) TMguanyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 43);
- (34) TMguanyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 44);
- (35) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 45);
- (36) 2F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 46);
- (37) APA-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 47);

- (38) desamino-R-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 48);
- (39) guanylyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 49);
- (40) succinyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 50);
- (41) glutaryl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 51);
- (42) deaminoTMG-APA-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 52);
- (43) nelfinaviryl-succinyl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 53);
- (44) AZT-glutaryl-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 54);
- (45) R-CH<sub>2</sub>-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 55);
- (46) H-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 56);
- (47) TMguanylyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 57);
- (48) ACA-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 58);
- (49) ACA-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-OH (SEQ ID NO. 59);

(50) H-Arg-Arg-Nal-Cys-Tyr-Cit-Arg-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 60);

(51) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Arg-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 61);

(52) Ac-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 62);

(53) Ac-Arg-Arg-Nal-Cys-Tyr-Arg-Lys-DCit-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 63);

(54) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DLys-Pro-Tyr-Arg-Cit-Cys-Arg-NH<sub>2</sub> (SEQ ID NO. 64);

(55) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHMe (SEQ ID NO. 65);

(56) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NHEt (SEQ ID NO. 66);

(57) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-NhiPr (SEQ ID NO. 67);

(58) 4F-benzoyl-Arg-Arg-Nal-Cys-Tyr-Cit-Lys-DGlu-Pro-Tyr-Arg-Cit-Cys-Arg-tyramine (SEQ ID NO. 68).

40. (New) The method according to claim 39 wherein said peptide having the sequence as set forth in SEQ ID NO: 45 or in SEQ ID NO: 64.